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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/644,848

08/21/2003

Shou-Tc Yu

YUSH3006/EM

6155

23364

7590

09/21/2006

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EXAMINER

BELT, SAMUEL E

ART UNIT

PAPER NUMBER

3746

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/644,848

Applicant(s)

YU, SHOU-TE

Examiner

Samuel E. Belt

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

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### **DETAILED ACTION**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/30/2006 has been entered.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear as to which of the two side surfaces, that each radiation fin has, the applicant is defining the inclination or the rotational plane by.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, & 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu (US Patent No. 5835347) in view of Fujisaki et al. (GB Patent Application No. 2280989).

In regard to Claims 1 and 2, as shown in Figure 1, Chu discloses a cooling fan comprising: a radiator (16), having a plurality of radiation fins (22); a fastening element (28, 34); a fan connected to a top of said radiator and including a frame and a plurality of blades mounted in said frame (32).

Although Chu discloses a cooling fan, Chu fails to teach a frame having a triangular cross section, so that said blades are mounted in said frame such that a rotational plane defined by said blades is inclined relative to planes defined by side surfaces of said radiation fins, and is inclined relative to a plane defined by top edges of said radiation fins.

Fujisaki et al. teach a fan (Fig. 26, item 133), comprising a frame and a plurality of blades mounted in said frame that has a triangular cross section, and is capable of mounting said blades such that a rotational plane defined by said blades is inclined relative to planes defined by side surfaces of said radiation fins, and is inclined relative to a plane defined by top edges of said radiation fins (Abstract). This configuration is useful to channel airflow to specified areas where there is heat generation. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Chu device by replacing the frame with a triangular frame having blades therein as

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taught by Fujisaki et al. in order to provide a more efficient way of transferring heat away from a heat source.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chu (US Patent No. 5835347) in view of Fujisaki et al. (GB Patent Application No. 2280989) as applied above and further in view of Shen (US Patent No. 5495392).

Chu and Fujisaki et al. disclose the aspects of the claimed apparatus as explained above including a fan frame with two slide ways provided at the lower ends (not numbered; however, clearly seen in Fig. 1 of Chu); a radiator that is provided at upper ends of two outmost ones of said radiation fins with two projected rails corresponding to said slide ways on fan frame, so that said fan is connected to the top of said radiator through engagement of said slide ways with said rails (28, 34 of Chu).

Although Chu and Fujisaki et al. disclose a cooling fan, Chu and Fujisaki et al. fail to teach the fan frame slide ways being provided at outer sides of lower ends and the radiators projected rails being projected inward.

Shen teaches a fastening element which is comprised of a cooling fan with a frame that is provided at the outer sides of the two lower ends with slide ways (not numbered; however, clearly seen in Fig. 1, See Note), and a radiator which is provided at upper ends of two outmost ones of said radiation fins with two inward projected rails (not numbered; however, clearly seen in Fig. 1, See Note) that correspond to said slide ways. Therefore it would have been obvious to one

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of ordinary skill in the art at the time the invention was made to modify the Chu in view of Fujisaki et al. device by replacing the fastening element with the fastening element as taught by Shen because the geometry of the fasteners are just reversals of one another and are functional equivalents.

(**Note:** The examiner is interpreting a "slideway" as being the bottom surface of the fans frame. The inward projected rails are the rails on which the fan's frame is secured.)

### ***Response to Amendments***

Applicant's amendment to claims 1 & 4, that the rotational plane defined by said blades is inclined relative to planes defined by side surfaces of said radiation fins, and is inclined relative to a plane defined by top edges of said radiation fins, has been considered but is not effective in view of the new ground(s) of rejection. See above for details.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lin et al. (US Patent 6,501,651) discloses the general nature of the art.

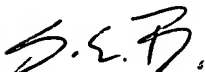
Ko (US Patent 6,183,214) discloses the general nature of the art.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel E. Belt whose telephone number is (571) 272-7820. The examiner can normally be reached on M-F, 8 - 4:30EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thorpe can be reached on (571) 272-4444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
SEB

  
ANTHONY D. STASHICK  
PRIMARY EXAMINER